

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. The original filing indicated that the square-bracketed cross-referencing numbers are not to be regarded as part of the claims, thus such square-bracketed cross-referencing material has been removed in the below claims listing::

CLAIMS LISTING (all of pending claims 1-43)

Claims 1-20 (*Cancelled*).

Claim 21 (*Original*): A switching method comprising:

(a) in a switch card layer, loading flow contents into respective ones of Virtual Output Queues (VOQs), where each VOQ is associated with a respective unicast destination or a prespecified set of multicast destinations;

(b) conducting bidding competitions between subsets of the VOQ contents to determine which of one or more smaller number of VOQ contents will be allowed to submit a passage request to a subset-associated part of a switching fabric layer; and

(c) stuffing bid-winning ones of the passage requests as primary requests into respective ZCell signals for transmission to the subset-associated parts of the switching fabric layer.

Claim 22 (*Original*): The switching method of Claim 21 and further comprising:

(d) first converting the request-stuffed ZCell signals to a serialized optical transmission domain, adding ECC fields and inserting synchronization bites; and

(e) transmitting the first converted ZCell signals with ECC fields and synchronization bites by way of optical medium in an interface layer to the switching fabric layer.

Claim 23 (Original): The switching method of Claim 22 and further comprising:

(f) second converting the request-stuffed and optically-transmitted ZCell signals to a less-serialized electronic processing domain;

(g) in the switch fabric, conducting grant competitions between received requests associated with said VOQ contents to determine which of one or more of VOQ's will be allowed to submit a smaller number of respective payloads for passage through a grant-associated part of the switching fabric layer and at what allocated time slots; and

(h) injecting grants and corresponding first Grant Time Stamps (GTSa) into respective ZCell signals for transmission back to the request-associated parts of the line card layer.

Claim 24 (Original): The switching method of Claim 23 and further comprising:

(i) third converting the grant-carrying ZCell signals to more-serialized optical transmission domain format, adding ECC fields and inserting sync bites and idle bites; and

(j) transmitting the third converted ZCell signals with ECC fields and sync bites and idle bites by way of optical medium in the interface layer to the switch card layer.

Claim 25 (Original): The switching method of Claim 24 and further comprising:

(k) fourth converting the grant-carrying ZCell's to the less-serialized electronic processing domain; and

(l) in the line card layer, inserting grant-winning payloads and associated second Grant Time Stamps (GTSb) into respective ZCell signals for transmission back to the grant-giving parts of the switching fabric layer.

Claim 26 (Original): The switching method of Claim 25 and further comprising:

(m) fifth converting the payload-carrying ZCell signals to the optical transmission domain, adding ECC fields and inserting sync bites; and

(n) transmitting the fifth converted ZCell's with ECC fields and sync bites by way of optical medium in the interface layer to the switching fabric layer.

Claim 27 (Original): The switching method of Claim 26 and further comprising:

(o) sixth converting the payload-carrying ZCell signals to the electronic processing domain;

(p.1) in the switch fabric layer, re-aligning the ZCell-carried payloads according to their respective, second Grant Time Stamps (GTSb); and

(p.2) switching the re-aligned payloads through the switch fabric layer during time slots associated with their respective, second Grant Time Stamps (GTSb).

Claim 28 (Original): The switching method of Claim 27 and further comprising:

(q) seventh converting the switched payload-carrying ZCell signals to the optical transmission domain, adding ECC fields and inserting sync bites and idle bites; and

(r) transmitting the seventh converted ZCell signals with ECC fields and sync bites and idle bites by way of optical medium in the interface layer to the line card layer.

Claim 29 (Original): The switching method of Claim 28 and further comprising:

(s) eighth converting the switched-payload-carrying ZCell signals to the electronic processing domain; and

(t) in the line card layer, re-ordering received ones of the switched-payloads according to accompanying source and sequence designations.

Claim 30 (Original): The switching method of Claim 29 and further comprising:

(u) attaching destination-based flow identification numbers (FIN) to the re-ordered and switched-payloads; and

(v) forwarding the FIN-bearing switched-payloads to their respective destination lines.

Claims 31-35 (*Canceled*).

Claim 36 (*New*): A switching method for use in a scalable communication system that forwards ingressing data signals to a multi-part switch fabric and obtains egressing data signals from the multiple parts of the multi-part switch fabric, with said ingressing data signals selectively routing to the switch fabric via an asynchronous interconnect layer, said method comprising:

- (a) for each of plural ones of the ingressing data signals that are to propagate via the asynchronous interconnect layer to a respective part of the multi-part switch fabric and then to a destination point, supplying a multi-bit first destination field that at least partially identifies the respective destination point, where the first multi-bit destination field is sufficiently large to identify at least 16 different destination points;
- (b) before forwarding the ingressing data signals via the asynchronous interconnect layer to respective parts of the multipart switch fabric, conducting a first bidding competition between subsets of the ingressing data signals that are vying to pass through a same first part of the multipart switch fabric to respective destination points so as to determine which of one or more smaller number of the competing data signals that are vying to pass through the same first part of the switch fabric will be allowed to have a passage request submitted on their behalf to the respective first part of the multi-part switch fabric layer; and
- (c) stuffing bid-winning ones of the passage requests as primary requests into respective asynchronous transmission cells for

transmission via the asynchronous interconnect layer to respective, first competition-associated parts of the switch fabric, where each primary request includes the corresponding first multi-bit destination field of the corresponding, ingressing data signal .

Claim 37 (New): The switching method of Claim 36 wherein:

- (a.1) the first multi-bit destination field is sufficiently large to identify 64 different destination points.

Claim 38 (New): The switching method of Claim 36 and further comprising:

- (b.1) before forwarding the ingressing data signals via the asynchronous interconnect layer to respective parts of the multipart switch fabric, conducting a second bidding competition between subsets of the ingressing data signals that are vying to pass through a same second part of the multipart switch fabric to respective destination points so as to determine which of one or more smaller number of the competing data signals that are vying to pass through the same second part of the switch fabric will be allowed to have a passage request submitted on their behalf to the respective second part of the multi-part switch fabric layer.

Claim 39 (New): The switching method of Claim 36 and further comprising:

- (d) after said transmission of the transmission cells via the asynchronous interconnect layer, conducting respective third competitions in the respective parts of the multipart switch fabric for determining which requests will receive corresponding grants.

Claim 40 (New): The switching method of Claim 39 wherein:

- (d.1) said conducting of the respective third competitions includes using the corresponding first multi-bit destination fields to determine if the desired passage through a same first part of the multipart switch fabric to a

respective destination point is not possible because a required egress path has already been allocated for passing another signal in a desired time slot.

Claim 41 (New): The switching method of Claim 40 wherein:

(d.2) said conducting of the respective third competitions further includes using a grant markup table for determining if a required egress path has already been allocated for passing another signal in a desired time slot.

Claim 42 (New): A scalable communication system that forwards ingressing data signals to a multi-part switch fabric and obtains egressing data signals from the multiple parts of the multi-part switch fabric, with said ingressing data signals selectively routing to the switch fabric via an asynchronous interconnect layer, said system comprising:

- (a) request formulating means for forming, for each of plural ones of the ingressing data signals that are to propagate via the asynchronous interconnect layer to a respective part of the multi-part switch fabric and then to a destination point, a multi-bit first destination field that at least partially identifies the respective destination point, where the formed first multi-bit destination field is sufficiently large to identify at least 16 different destination points;
- (b) first bidding competition means for use before the forwarding of the ingressing data signals via the asynchronous interconnect layer to respective parts of the multipart switch fabric, the first bidding competition means conducting a first bidding competition between subsets of the ingressing data signals that are vying to pass through a same first part of the multipart switch fabric to respective destination points so as to determine which of one or more smaller number of the competing data signals that are vying to pass through the same first part of the switch fabric will be allowed to have a passage request submitted on their behalf to the respective first part of the multi-part switch fabric layer; and

- (c) request stuffing means for stuffing bid-winning ones of the passage requests as primary requests into respective asynchronous transmission cells for transmission via the asynchronous interconnect layer to respective, first competition-associated parts of the switch fabric, where each primary request includes the corresponding first multi-bit destination field of the corresponding, ingressing data signal .

Claim 43 (New): The scalable communication system of Claim 42 and further comprising:

- (c.1) secondary request stuffing means for stuffing secondary bid-winning ones of the passage requests as secondary requests into respective asynchronous transmission cells for transmission via the asynchronous interconnect layer to respective, first competition-associated parts of the switch fabric, where each secondary request includes the corresponding second multi-bit destination field of the corresponding, ingressing data signal which designates an egress path different than that designated by the accompanying primary request within the transmission cell.
